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Felix Perez Camacho
Governor

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Lieutenant Governor

April 1, 2004

Mark Settleberg
Acting Field Supervisor
300 Alamoana Blvd.
Box 5088
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Mr. Settleberg,

As prescribed by civil case (CV00-00060. status hearing of February 26, 2004) concerning the establishment of critical habitat, the Government of Guam submits to you our critical habitat alternative (CHA). As you are aware, this has been a very sensitive issue and has impacted our programs for many years. I sincerely hope that this effort is the beginning of healing those wounds and strengthening the partnerships between us.

GOVERNMENT OF GUAM
CRITICAL HABITAT ALTERNATIVE PROPOSAL

The pending decision to designate critical habitat over areas determined to be essential for species recovery habitat begs the question: is this the best approach to protecting and recovering the future of endangered species on Guam?

The Government of Guam proposes that an active management plan with associated commitments of effort over a defined period of time has a higher potential for success in the recovery of endangered species than the legal zoning designation provided by critical habitat. In addition, this proposal carries out many other natural resources related management actions that preserve, protect and/or recover native species. Please also note the significant addition of coastal management efforts that aid endangered species and fisheries management issues to this plan.

The Government's proposal is required by law to address only the benefits and advantages associated with government lands proposed to be dedicated to the conservation of endangered species as they relate to the recovery of the Guam rail (*Gallirallus owstoni*), Guam subspecies of the Micronesian kingfisher (*Halcyon c. cinnamomina*), Mariana crow (*Corvus kubaryi*), Guam flycatcher (*Miagra freycineti*), the bridled white-eye (*Zosterops c. conspicillata*) and the Mariana fruit bat (*Pteropus m.*

marianus). In the interest of time, it is recognized that the DOD partners will require renegotiation with USFWS before accepting the Government of Guam to sign into any type of partnered agreement like the GNWRO. Committing Government of Guam lands for endangered species recovery with active management plans is essential to save the threatened and endangered fauna. The Government of Guam has also included other commitments of efforts that approach this issue from an ecosystem management perspective. A major advantage to this approach is the commitment the Government of Guam has made in aiding other stakeholders in implementing ecosystem and endangered species recovery efforts. Critical habitat designation will not ensure these partnerships or commitment of effort, funding or recovery.

Included in this proposal are the following:

1. A listing of Government of Guam lands to be designated for conservation. The Government of Guam is ready and willing to sign an MOU and a cooperative agreement with USFWS to conserve identified lands in lieu of critical habitat designation. The Government of Guam is also interested in revisiting a partnered approach as was previously proposed in the overlay concept; however, changes in the law since that agreement was made require negotiations with all the partners that will exceed the available time. The Government of Guam continues to believe a partnered approach is still the best option for endangered species recovery. This proposal provides a foundation for this to occur, while critical habitat designation may eliminate the potential for this to occur in the future.

2. A Critical Habitat Alternative has been provided following an Integrated Natural Resource Management Plan for the Government of Guam lands listed to be designated for conservation. This document provides the foundation for the Government of Guam to avoid critical habitat designation.

3. Endangered Species Stakeholders letters of support for the overall recovery of endangered species and natural resource management.

4. A legal opinion from the Guam Attorney General's Office, defining the Government of Guam authority to enter into such an agreement.

The Government of Guam recognizes that an integrated natural resource management plan including all landholders is necessary as the species do not recognize ownership boundaries and without coordination of efforts, species recovery will not be successful. The species recovery plans define the land needed to recover the species and it is essential that all land identified be included or recovery cannot be accomplished. As previously proposed, the Government of Guam is prepared to enter into a partner agreement to recover endangered species. However, given the recent changes in the

National Defense act, this is no longer merely offering to allow the Government of Guam to become a signatory on the existing agreements. Laws have changed and before the DOD partners will join an agreement with the Government of Guam and the USFWS, they want to renegotiate their participation. The Government has packaged a proposal that includes lands and actions essential to the recovery of Guam's endangered species. The Department of Defense was given the option of substituting their INRMP for critical habitat and a similar agreement seems reasonable for the Government of Guam. The CHA better serves the recovery needs of the species and should also be adopted in place of critical habitat. The Government of Guam also encourages USFWS to engage all the landowners at a later time to work through integrating a partnered agreement for Guam endangered species recovery.

I thank you and your staff for the support and assistance provided to the Government of Guam in pursuing this option and I am looking forward to working through the necessary steps to make this plan come to fruition.

Sinseru yan Magåhet,

FELIX P. CAMACHO
I Maga'lahen Guåhan
Governor of Guam

Cc: Hon. Craig Manson

Government of Guam

CRITICAL HABITAT ALTERNATIVE

April 2004

DIVISION OF AQUATIC AND WILDLIFE RESOURCES
DEPARTMENT OF AGRICULTURE
GOVERNMENT OF GUAM
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Department of Agriculture
Government of Guam
192 Dairy Road,
Mangilao, Guam

March 31, 2004

To Whom it May Concern:

GOVERNMENT OF GUAM
CRITICAL HABITAT ALTERNATIVE PROPOSAL

The pending decision to designate critical habitat over areas determined to be essential for species recovery habitat begs the question of if this is the best approach to protecting and recovering the future of endangered species on Guam? Therefore the Government of Guam submits this Critical Habitat Alternative (CHA) for review.

The Government of Guam proposes that an active management plan with associated commitments of effort over a defined period of time has a higher potential for success in the recovery of endangered species than the legal zoning designation provided by critical habitat. In addition, CHA carries out many other natural resources related management actions that preserve, protect and/or recover native species. Please also note the significant addition of coastal management efforts that aid endangered species and fisheries management issues to this plan.

The designation of critical habit also requires consideration of alternatives that may be better for the recovery of endangered species. Reviewing the efforts made to recover endangered species on Guam in accordance to the federally adopted recovery plan, the Government of Guam has been the primary entity in completing the recommended actions. The relief the DOD landholders received through the national defense act is clear guidance that management plans such as Integrated Natural Resource Management Plans are prudent substitutes for critical habitat designation and the Government of Guam feels equal treatment is appropriate.

The CHA is required by law to address only the benefits and advantages associated with government lands proposed to be conserved (conservation land, CL) as they relate to the recovery of the Guam rail (*Gallirallus owstoni*), Guam subspecies of the Micronesian kingfisher (*Halcyon c. cinnamomina*), Mariana crow (*Corvus kubaryi*), Guam flycatcher (*Miagra freycineti*), the bridled white-eye (*Zosterops c. conspicillata*) and the Mariana fruit bat (*Pteropus m. marianus)*. However, the Government of Guam has also included other commitments of efforts that approach this issue from an ecosystem management perspective. A major advantage is the commitment the Government of Guam will make in aiding other stakeholders in implementing ecosystem and endangered species recovery efforts. Critical habitat designation will not ensure these partnerships or commitments of effort, funding or recovery.

Included in this proposal are the following:

1. A listing of Government of Guam lands to be designation for conservation. The Government of Guam is ready and willing to sign a MOU and a cooperative agreement with USFWS to conserve identified lands in lieu of critical habitat designation. The Government of Guam is also interested in revisiting a partnered approach as was previously proposed in the overlay concept but changes in the law since that agreement was made require negotiations with all the partners that will exceed the available time. The Government of Guam continues to believe a partnered approach is still the best options for endangered species recovery. This proposal provides a foundation for this to occur while critical habitat designation may eliminate the potential for this to occur in the future.

2. A Critical Habitat Alternative has been provided following an Integrated Natural Resource Management Plan for the Government of Guam lands listed to be designated for conservation. This document provides the foundation for the Government of Guam to avoid critical habitat designation.

3. Endangered Species Stakeholders letters of support for the overall recovery of endangered species and natural resource management.

4. A legal opinion from the Guam Attorney General's Office, defining the Government of Guam authority to enter into such an agreement.

The following government officials hereby pledge support for the actions stated in this, CHA. Support for this document stems from the potential creation of Critical Habitat for the species in question. This proposal advocates that a partnership between natural resource stakeholders is preferable and more effective than critical habitat designation.

Paul C. Bassler
Director of Agriculture

Gerald W. Davis
Chief, Aquatic & Wildlife Resources

Felix P. Camacho
I Maga'Lahen Guåhan
Governor of Guam

MISSION STATEMENT

The mission of the Guam Division of Aquatic and Wildlife Resources, Department of Agriculture is to effectively manage, preserve, protect, and restore Guam's natural resources now and for the future.

NARRATIVE

Guam is a U.S. territory located at 13°28' N, 144°45' E and is the southernmost island in the Mariana Archipelago. It is the largest island in Micronesia, with a land mass of 560 km2 and a maximum elevation of approximately 405 m. The northern portion of the island is relatively flat and consists primarily of uplifted limestone with native limestone forests. The southern half of the island is primarily volcanic, with more topographic relief and large areas of highly erodible lateritic soils. The natural habitat in this area is ravine forest. Guam has tropical climate with average temperature between 23 and 35 degrees centigrade. Annual rainfall averages 250 cm annually and the humidity ranges from 65 to 90 percent annually. There are distinctive rainy and dry seasons which occur between May and September and October and April respectively. Under natural conditions, Guam hosted a rich and unique diversity of terrestrial and aquatic species. Over the last 30 years Guam has experienced tremendous domestic growth and suffered significant environmental degradation from an island-wide perspective. The unique avifauna, herpifauna, plant ecology, river and marine fauna have all been threatened through the introduction of a variety of invasive species, direct human impacts and poor land management practices. The Government of Guam has worked on these issues for years and realizes the future economy and preservation of the culture are dependent on successfully recovering the natural resources.

Many species of animals are known to Guam. Over 100 species of birds are known to Guam including migrant, wetland, seabird, grassland, and forest birds (Reichel and Glass 1991, Engbring and Fritts 1988). Three native mammals are known to Guam including the Marianas fruit bat, Little Marianas fruit bat and Pacific sheath-tailed bat. The Marianas fruit bat is the only extant bat on Guam. The nonnative Philippine deer and feral pig are game animals. A variety of habitats provide for these animals including native forest, wetlands, shoreline, grasslands, and a mosaic of other habitat types (Stone 1970).

A significant factor in evaluating the health of Guam's natural resources is the frequent number of typhoons that impact the island. In the last decade, Guam has been directly hit by four 150+ mph storms and suffered high wave and winds from large systems passing near Guam. These systems have had tremendous impact on the vegetative characteristic of the island and on shoreline and riverbank stability. This has been further exacerbated by poor land management practices, such as burning, that have created large badlands highly prone to erosion during the rainy season. This has caused wide scale degradation

of forest and coral reefs through sedimentation and the inhibition of reproduction for many species due to poor water quality.

In the 1940's, the Brown Treesnake (*Boiga irregularis*) was accidentally introduced to Guam after World War II. The ecological damage caused by the Brown Treesnake to the island environment is well documented (Savidge 1987, Jaffe 1994, Conry 1988, Engbring and Fritts 1988, Wiles 1987, Rodda and Fritts 1992, Rodda et al. 1992a, 1997). This snake is largely responsible for the extirpation or decline of the island's resident bird species (Savidge 1987). This nocturnal and arboreal snake is capable of taking advantage of a variety of habitats and prey species (Rodda et al. 1992b, 1999b).

Only three native forest bird species continue to persist in the wild on Guam.
In 1990, the USFWS published two recovery plans for populations of six federally listed forest bird species found in the southern Mariana Islands. The recovery plan for the endangered native forest birds of Guam and Rota (Beck and Savidge 1990) covers the following species: the Guam rail (*Gallirallus owstoni*), Guam subspecies of the Micronesian kingfisher (*Halcyon c. cinnamomina*), Mariana crow (*Corvus kubaryi*), Guam flycatcher (*Miagra freycineti*), and the Guam population of the bridled white-eye (*Zosterops c. conspicillata*). These species were grouped together for recovery purposes because they occupy similar habitats and face similar threats. Unfortunately, the population of flycatchers and white-eyes on Guam became extinct in the mid-1980s. The Guam subspecies of the rufous fantail (*Rhipidura rufifrons uraniae*) was not federally listed and went extinct in the mid-80's as well. A separate recovery plan was prepared for the island swiftlet or Guam swiftlet (*Aerodramus vanikorensis*) for the Mariana Islands from Guam to Saipan (USFWS 1991).

Most major objectives outlined in the *Native Forest Birds of Guam and Rota of the Northern Mariana Islands Recovery Plan* (Beck and Savidge 1990) for recovery of the Guam rail have been implemented. The Guam Division of Aquatic & Wildlife Resources (GDAWR) has developed and maintained a captive population of over 100 rails, while as many as 18 mainland zoos have maintained and bred rails in captivity. In 1989, a final rule was approved by the USFWS for the designation of an experimental population of Guam rails to be established on Rota for the purposes of preserving wildness and genetic variability in the species, and to serve as a source of birds for reintroduction to Guam at some later date. Introduction methods were tested between 1989 and 1996, when 128 Guam rails were released into the wild on Rota. In December 1995, successful reproduction by captive Guam rails released on Rota was documented. Current information indicated that a breeding rail population on Rota is present but further releases are still warranted.

Recently GDAWR, U.S. Department of Agriculture, Wildlife Services, U.S. Geological Survey, Biological Research Division, and several other government and private investigators made advances in the use of traps and barriers to control brown treesnakes. Efforts to begin area-wide snake control using both removal and exclusion methodologies were tested at Area 50 Northwest Field and demonstrated the possibility for the reintroduction of rails and other native forest birds favorable in the near future. Such

reintroduction efforts utilized methods originally developed for introduction of rails to Rota. Cat control was a major obstacle to the establishment of a small population of rails. Given the significant advances described above, it is appropriate to continue activities toward the recovery of the Guam rail and establishment of a population in the wild on Guam.

Despite considerable progress in achieving recovery plan objectives for the Micronesian kingfisher, this species continues to decline in captivity towards extinction. There are no kingfishers left in the wild on Guam. A captive population of kingfishers was established at mainland zoos in 1984 and 1985. The captive kingfisher population peaked at 65 individuals in 1990 and is currently unstable at approximately 60 birds. A partial recovery objective of 250 captive kingfishers cannot be reached under present conditions as reproductive gain is offset annually by young adult mortality. Other limitations to population growth of captive kingfishers in captivity include mate incompatibility and aggression, rising levels of infertility, a decline in the number of fertile eggs that hatch, and continual exposure to avian tuberculosis at zoos. In May 1995, the Micronesian Kingfisher Species Survival Plan (MK SSP) Management Group held a conference to evaluate the captive-breeding program, resulting in the formulation of an action plan designed to stabilize and increase the kingfisher population. *The Micronesian Kingfisher Species Survival Plan Action Plan* was endorsed by GDAWR and USFWS, and contains many of the critical objectives for recovery that are outlined in the recovery plan. Unless expedient recovery actions are taken to reverse the decline of the Micronesian kingfisher in captivity and to repatriate the birds to Guam, this species may yet become extinct.

Successful means to protect nests of Mariana crows from brown treesnake predation have been developed and resulted in an increase in the number of eggs laid per clutch from 1-2 eggs to as many as 3 eggs, and successful fledging of a small number of offspring. However, once snake predation was controlled it came to light that factors in addition to snake predation were limiting the growth and recovery of Mariana crows on Guam. Because of reproductive failure since the mid-80s only one crow from the Guam population remains in the wild. Post-reproductive aging appeared to be the foremost obstacle for recovery of crows on Guam. Between 1993 and 1995, captive-breeding experts, constituting the Mariana Archipelago Rescue and Survey (MARS) group, captured and transported 10 Mariana crows from Rota to the National Zoological Park's Conservation and Research Center in Front Royal, Virginia, and the Houston Zoo. The purpose was to study captive management requirements for crows. During the 1996 breeding season, avicultural intervention on Guam in the field had protected eight fertile eggs, and two young Mariana crows were successfully hand-reared and returned to the wild. In spite of these successes, translocation of crows from Rota to Guam is considered a higher priority than captive breeding to prevent extinction of Mariana crows on Guam.

As of January 2004 approximately 10 crows, (all released captive crows except for one wild bird) are on Guam. A genetic study undertaken by Tarr and Fleischer (1999) confirmed a close taxonomic relationship between the two Mariana crow island populations on Guam and Rota. The National Research Council (NRC) conducted an evaluation of the Mariana crow recovery program and published its findings in a 1997

report entitled *The Scientific Bases for Preservation of the Mariana Crow* (NRC 1997). The NRC report compliments and reiterates recommendations of the recovery plan for the Mariana crow. The crows held in captivity by the MARS group were translocated and released on Guam in 1997 using methods previously employed on Guam by GDAWR to release a rehabilitated Guam crow that had been held in captivity for 5 years (Task #732). A major accomplishment of GDAWR's program was achieved when two captive reared birds produced 2 clutches of fertile eggs in the wild in 2003. These eggs were successfully hatched in GDAWR's incubation facility.

Two other federally listed species, the Mariana moorhen and Guam swiftlet continue to exist in the wild. Moorhen are poorly understood and have been neglected in terms of studies on their life history and dispersal patterns. Because of Guam's very limited landmass, conflicts between wetland protection and the need to develop these areas for commercial or urban use is bound to increase. Studies of the moorhen are needed to make appropriate management decisions to maximize moorhen productivity, increase survivorship of young birds and minimize negative impacts from such sources as human encroachment into important moorhen habitat and predation by feral cats and dogs, wild pig, and brown treesnakes.

The island swiftlet was able to persist in spite of the brown treesnake and continues to survive in the wild, in several small colonies totaling about 400 birds. Because the majority of birds are found in one cave (at Mahlac Cave on the Naval Ordinance Annex in southern Guam), the island's swiftlet population is vulnerable to snake predation, habitat destruction, and various stochastic factors affecting cave sites, including human disturbance, typhoons and flooding. Recent snake trapping and video taping at Mahlac Cave suggests that snake predation is a major factor limiting the size of this colony. Prior to Typhoon Pongsona, the population numbered over 800 birds. The swiftlet recovery plan identifies the need to increase the reproductive success of birds at colony sites, which should result if predation can be reduced. The swiftlet recovery plan identifies actions to recover the species (USFWS 1991).

Studies investigating methods for permanently eradicating snakes from remote locations in the wild need to be applied to protect swiftlet colony sites, such as Mahlac Cave, from snake predation. Currently, intensive mouse-baited trapping is the only viable technique for reducing snake abundance. However, this method is labor intensive, especially when applied at remote sites. More economical techniques need to be developed.

Snake barriers (Aguon et al. 1999 and 2002, Campbell 1999, Perry et al. 1998, and Rodda et al. 1999a) and perimeter trapping have been demonstrated to be effective in removing snakes in the absence of a physical barrier in areas larger than 1-hectare (Engeman and Linnell 1998, Engeman et al. 1998). A combination of both techniques may be employed considering the uneven substrate characteristic of much of Guam's northern limestone forest. As birds settle into territories and begin to breed, electrical barriers then can be used to protect their nests.

Other species can benefit from large-scale snake control. About 50 – 60 individuals of the endemic Guam Micronesian Kingfisher of survive only in zoos. Application of barriers and area-wide snake control will assist in efforts to repatriate kingfishers back into the wild. Releases of other indigenous birds no longer found on Guam and still found in the Marianas Islands may follow as large areas are controlled of snakes.

Besides endangered birds, Guam has one federally listed species of bat (USFWS 1990), two sea turtles and one species of tree. These species are in need of attention with respect to preservation of habitat, control of pest species and improvement in recruitment of young.

The Mariana fruit bat (*Pteropus m. marianus)* was also listed along with the forest birds on the US Endangered Species List in 1984. Hunting was the major reason for the decline of the fruit bat. Though poaching has been controlled, the bat population has not recovered probably due to predation by brown treesnakes. Wiles (1987) suggested that snake predation of pups while their mothers were off foraging was the main cause of poor recruitment of bats. From 1980-82, the bat population was estimated to be about 850-1000 bats (USFWS 1990). Currently, the population numbers less than 200. Without local recruitment Guam's population remains highly dependent on the Rota population through migration of animals. Fruitbats will also benefit from the development of snake-free areas.

Green (*Chelonia mydas*) and hawksbill (*Eretmochelys imbricata*) sea turtles both frequent Guam's waters and are known to nest on the coastal shores. The green sea turtle is federally and locally listed as threatened and the hawksbill sea turtle is federally and locally listed as endangered. Guam has very limited information regarding nesting habits and the actual size of both nesting and in-water populations of either sea turtle species around Guam. Existing data have been gathered infrequently and usually incidentally to other projects. They consist of recorded nesting activity at various beaches over the years, sightings during aerial fisheries surveys, and very limited anecdotal information on populations in the waters around Guam. Continued population growth on Guam, increased coastal usership, degradation of coastal and marine habitats, and illegal take pose threats to sea turtles. Without adequate turtle population estimates and spatial and temporal distribution information, it is difficult to know what additional management measures may be needed to protect nesting habitat and in-water populations. Guam's Sea Turtle Recovery Project began with a grant from NOAA, NMFS in July 1999 and was developed from the recovery plans for both species (NMFS and US Fish and Wildlife Service, 1998; National Marine Fisheries Service and USFWS 1998b). To date, 2 nesting green sea turtles have been satellite tagged and several others have been PIT and flipper tagged. No hawksbills have yet been satellite or PIT tagged but several new suspected hawksbill crawls have been identified and efforts to tag both species are ongoing.

The Guam population of *Serianthes nelsonii* consists of one adult tree and several seedlings. The mortality of one adult tree (several seedlings were saved from this parent tree) testifies to the critical status of this species. In 1994, the USFWS published a recovery plan for *Serianthes nelsonii* that outlined objectives to recover the species, such

as managing the Rota and Guam population, protection against feral ungulates with fences, control of insect pests, habitat protection, and propagation and seeding of new areas (USFWS 1994). Although seedlings have been planted in an area slated for total removal of ungulates, little further progress has been made to address the factors limiting the recovery of the species.

Guam possesses fringing reefs, patch reefs, submerged reefs, offshore banks, and barrier reefs surrounding the southern shores and part of Apra Harbor (Randall and Eldridge, 1976). However, only Apra Harbor has substantial lagoonal habitats deeper than 10 m (Paulay, 2003). The reef margin varies in width, from tens of meters along some of the windward areas, to over 781 meters in Pago Bay (Randall and Eldridge, 1976). The combined area of coral reef and lagoon is approximately 69 km^2 in nearshore waters between 0-3 nmi, and an additional 110 km^2 in federal waters greater than 3 nmi offshore (Hunter, 1995). Sea surface temperatures range from about 27-30°C, with higher temperatures measured on the reef flats and in portions of the lagoons (Paulay, 2003). Although Guam is not as diverse as the neighboring islands to the south (Palau and Federated States of Micronesia), it lies relatively close to the Indo-Pacific center of coral reef biodiversity (Veron, 2000). Table 1 includes the number of currently documented species for major coral reef taxa on Guam or in some cases for the Mariana Islands as a whole.

In order to protect, conserve, and manage Guam's rich coral reef resources, GDAWR has implemented a variety of management strategies. The Fisheries staff coordinates with local and federal partners to monitor the resources, implement local action strategies, draft legislation, review permits, and conduct outreach and education. For example, GDAWR staff members represent the Governor at US Coral Reef Task Force meetings, sit on the Coral Reef Ecosystem and Bottomfish Fishery Management Plan Teams, and participate in NOAA coral reef ecosystem investigation research cruises.

The Department of Agriculture, Aquatic and Wildlife Resources, is committed to the development and implementation of the Government of Guam CHA. This plan will be part of an Comprehensive Wildlife Conservation Plan, CWCRP, to be used as part of Guam's conservation guide. The Division has received Federal Aid through the State Wildlife Grant Program that is contingent on developing such a plan. The plan will address Wildlife and Fish Resources throughout the island and will include Federal and State lands.

JURISDICTION

Over time there has been a difference in interpretation over the application of concurrent jurisdiction (1 GCA) and the ownership of submerged land. The Government of Guam continues to believe until these issues are resolved in a court of law that the resource management issue is best served by agreeing to disagree about these issues and continue to agree on the best management approach for the resources in partnership.

OBJECTIVE

To prevent the extinction and promote the recovery of the native forest birds, bats, sea turtles, coral reefs, and plants of Guam by implementation actions that will increase survival of wild and captive populations of these species over the next five years.

EXPECTED RESULTS OR BENEFITS

This approach will preserve and protect healthy ecosystems while increasing endangered species recovery through improved captive propagation, management and augmentation (or translocation) of endangered species.

DESCRIPTION AND PURPOSE OF THE PLAN

GDAWR is the lead agency in management of Guam's natural resources. This includes all management activities associated with aquatic and terrestrial fauna. GDAWR also manages the hunting and fishing programs for the territory, all the associated monitoring and assessment, and also coordinates a large successful captive rearing and propagation program for the recovery of endangered species. The purpose of this plan is to effectively manage, preserve, protect, and restore Guam's natural resources now and for the future. A major focus of this plan is addressing specific endangered species recovery, by recognizing that long term management must focus on the ecosystem approach. To effectively meet this goal, the Government agencies must partner among themselves as well as with other local and federal partners. GDAWR has a strong working relationship with local and federal partners and it is now critical to mutually define how these efforts will be accomplished.

This plan is modeled after the accepted INRMPs for AAFB and the Navy . The Government of Guam proposes that this approach provides a greater potential for the endangered species recovery than the proposed declaration of Critical Habitat. Based on the information presented, the Government of Guam feels that the critical habitat alternative has a greater potential for success in the recovery of endangered species and therefore the USFWS prudency review should favor this proposal. This plan is to be a living document to be updated and amended with the latest information. With the necessity of creating a Comprehensive Wildlife Conservation Plan, it is apropos that the court has tasked the Government of Guam with the development of the CHA.

The following programs are committed under this plan. These programs are contingent on the continued receipt of committed funds. If funds are not received, the Government will seek alternative funding to continue to support such efforts. Programs will be updated annually and appropriate changes made.

Table 1. Summary of Grants received by GDAWR for wildlife related programs and projects (FY03/04).

Program	Funding	Amount
Guam Wildlife Restoration Program	Wildlife Restoration	$432,200
Guam Endangered Species Recovery	ES Section 6	$482,783
Guam Wildlife and Conservation Program[1]	WCRP	$120,983
Guam State Wildlife Grant Program[1]	State Wildlife Grant	$194,000
Guam Safe Harbor Agreement[1]	Endangered Species- Safe Harbor	$265,419
Brown Treesnake Control Program	Office of Insular Affairs	$400,000
	Total Funding =	$1,895,385

[1]Funding was a single award provided by the US Congress.

AUTHORITY

The Division of Aquatic and Wildlife Resources, Department of Agriculture, has the authority to implement recovery programs, enforce local and federal endangered species laws, and other activities under Title 5 Guam Code Annotated Chapter 63, Section 63101-63130. In addition, the Endangered Species Act of 1973 offers legal protection for US Listed Species. The GDAWR is obligated under this Act to protect listed species. GDAWR has the authority to implement these action plans when it signed the Cooperative Agreement with the US Fish and Wildlife Service. Other laws that GDAWR is obligated to enforce are the Migratory Bird Treaty Act of 1918. It basically serves to protect migratory birds species listed in the MBTA.

TABLE 2. Authorities related to Natural Resources Management on Guam.

No.	Authority or Law	Summary
1.	Endangered Species Act of 1973 (16 USC 1531-1544, 87 Stat. 884), as amended	Affords protection of listed species.
2.	Migratory Bird Treated Act of 1918 (16 USC)	Affords protection specifically listed migrant species.
3.	Sikes Act	16 USC 670
4.	USFWS Cooperative Agreement	An agreement that allows Guam to implement endangered species recovery programs.
5.	Guam Endangered Species Act, 5GCA 63208, PL – 15-36	Law allows for the adjudication of an endangered species list for Guam.
6.	Game, Forestry and Conservation, 5 GCA, Chapter 63, PL 6-85	Law describing the authority of the Department of Agriculture
7.	Protection of Wild Animals, 5 GCA 63121	List species that are considered protected.
8.	Fish, Game, Forestry and Conservation, 5 GCA, 63101-63117	Laws protecting Guam's fish resources
9.	Concurrent Jurisdiction	1 GCA

FUNDING SOURCES

The strength of this INRMP will be GDAWR's ability to secure funding to carry out its plans. GDAWR currently receives funding through the Pittman-Robertson's Wildlife Restoration Act and US Endangered Species Section 6 funding, Coral Reef Initiative, WPacFIN, NMFS and OCRM (CZMP). It has received single appropriations from the US Congress which provided additional funding assistance through the State Wildlife Grant and the Wildlife Conservation Restoration Program. Acceptance of the SWGP funding was contingent on the development of a Comprehensive Wildlife Conservation Program (CWCP). Development of this document will qualify GDAWR for additional funding. GDAWR also receives OIA funding for brown tree snake control. GDAWR has initiated a Safe Harbor Agreement with the Talofofo Golf Course and the USFWS for Guam rail reintroduction and BTS control. Besides these programs, GDAWR to receives private donations to the Conservation Fund for special projects. Sales of hunting licenses and deer tags are also deposited in this account.
Additional funding may be obtained from funding sources such as:

1) Legacy Funding from the AAFB
2) South Pacific Regional Environmental Program
3) Government of Guam Local Appropriations
4) NGO/Private donations to GDAWR's Conservation Fund.
5) Land Acquisition Grant (Federal)

In addition to direct funding of projects, GDAWR has received support from in-kind donations from Disney World which has provided veterinary services and supplies.

The Division of Forestry also receives matching funding for reforestation related projects.

CLIMATE:
Guam (13° 28' N, 145° 45' E) is the southernmost island of the Mariana Archipelago in Micronesia. The climate is tropical, being warm and humid year-round. Annual rainfall averages 250 cm and falls mostly from July to November (U.S. Army Forces Far East 1959). There is a distinct wet and dry season, with December being the transition month into the dry season. Trade-winds are most active from December –February. Humidity is high throughout the year.

SOILS:

Northern Guam

Fossilized coral terraces characterize the northern half of Guam. Soil deposits are shallow being not deeper than 6 inches in most areas. Most areas of northern Guam are composed of jagged, loose rock. Few areas are able to support intensive agricultural practices.

Southern Guam

The southern half of the island is characterized by rolling hills of volcanic alluvial soil. Little, if any, of the original forest that once covered the south remains. Much of the volcanic substrate has been exposed and has over tmany years, been desertified. The soil conditions are highly drained for most of the nutrients to support plant life.

VEGETATION

Eight general habitat types are defined (Fosberg 1960, Stone 1970, Engbring and Ramsey 1984). Donnegan et al. (2002) provided additional habitat descriptions that are more specific to a few of the habitats defined.

KEY HABITAT TYPES:

1) Primary Limestone Forest: This is a forest composed principally of native vegetation of trees and plants, with a moderately dense canopy of 10-30 m high. There are no or only a few openings, and understory vegetation varies from open to dense. An area composed of native trees and plants. Much of the uninhabited areas of far northern Guam, as well as the cliff and bench areas along the coast, is of this type. Species of trees including the *Ficus*, *Intsia*, *Artocarpus* and *Elaeocarpus* are commonly found in this forest. There are several distinct limestone forest types including *Artocarpus-Ficus*, *Mammea*, *Merriliodendron-Ficus*, and *Panadanus*.

2) Broken Forest: This is mixed woodland forest dissected by many small, open scrubby fields, which make up 10% - 25% of the area. Broken forest is the result of human disturbance and is confined mostly to the Central Plateau and Mt. Santa Rosa regions, near the Anao Conservation Area.

3) Scrub Forest: This diverse, brush forest generally has an open canopy under 10m high with dense understory. It is described by Jenkins (1983) as "second growth" or "scrub vegetation". The plant species are generally similar to those in more mature limestone forests, but are at an earlier stage of development. Leucaena is not found in this forest because it is shade intolerant. In northern Guam this habitat is dominated by *Vitex parviflora*. However, within this forested area native plants can be found.

   Much of the Tarague Plateau and Northwest Field Region is scrub forest. Historically, these areas were cleared for military purposes and repeated typhoon destruction have played a major factor in creating these forests.

4) Coconut Grove: Historically, these areas were copra plantations or ranches since abandoned. The canopy is 15-25 m high, is moderately dense and generally complete. In most areas there is thick understory composed of a variety of native and non-native shrubs and young trees including numerous young Cocos. Some coconut groves may contain native plants.

5) Beach Scrub: Open sand beaches, barren coastal outcroppings, and coastal areas of sparse vegetation generally 2-3 m or shorter in height comprise this habitat. The dominant plant is *Pemphis acidula*, a salt-tolerant species. Scrubby stands of *Pemphis* are most extensive from Mt. Santa Rosa to Pati Basin.

6) Open field: This habitat includes agricultural fields, and other open areas that are removed from urban or residential areas. The open field habitat is a result of human disturbance. Disturbed areas containing a mix of non-native grasses, succulents and Chromoleana. May contain *Nephrolepis*, and other ferns.

7) Agriforest: This is highly dissected mosaic of dwellings, open fields, gardens, scrub forest, limestone forest, and old Cocos groves. Much of central portion of northern Guam consists of this habitat, especially the Central Plateau Region.

8) Urban: Urban and residential areas, adjacent fields and openings, and runways comprise this habitat. Most of AAFB is urban, as are several towns (Dededo and Yigo) in more southerly regions. The Northwest Field Region has numerous abandoned runways which are classed as urban; a typical scrub forest surrounds these runways.

9) Grassland: Usually found in south, these areas are dominated by Miscanthus floridulus, and may contain others species such *Pennisetum polystachyon* and *Dimeria chloridiformis*.

10) Ravine Forest: Common ravine forests include the native *Ficus prolixa*, *Glochidion mariannensis*, *Hibicus tiliaceous*, *Pandanas tectorious*, *Premna serratifolia* and nonnative *Areca catechu*.

11) Halophytic Forest: Halophytic (salt adapted) forests are found along beaches in the north and south. Commonly composed of *Casuarina equisetifolia*, *Cocos nucifera*, *Guettarda speciosa*, *Hernandia sonora*, *P. tectorius*, *Scaevola taccada*, *Thespesia populanea*, and *Tournefortia argentea*.

ENDANGERED SPECIES

Guam maintains a list of endangered species. This list includes locally and federally listed species (Table 2). The list includes species that were driven to endangerment mainly due to brown treesnake predation. The list is renewed annually officially by the state government's official adjudication process.

Guam Rail

The Guam Rail (*Gallirallus owstoni*) is the only extant endemic rail in the Marianas Islands (Baker 1951). This species was once found throughout the island. By the 1970s this species was limited to northern fringes of Guam (Jenkins 1979). This flightless ground nesting species survived in the wild well into the 1980s. In a visit in 1960, Lint (1968) reported that the island had 60,000 rails.

Efforts to save this species from extinction began with captive breeding in 1984. A few individuals were caught along with some chicks and eggs. Efforts to bring the few remaining individuals from the wild resulted in 20 founding birds in captivity.

Captive propagation has involved GDAWR, and over 12 participating US Mainland zoos. The captive breeding effort is managed by the Species Survival Program to maintain heterzygosity in the population and avoid inbreeding. To date, over 800 rails have been produced in captivity. Guam rails will lay up to 4 eggs which hatch in 19 days. Mated pairs may raise up to 10 broods in a single year in captivity.

An experimental population is being established on Rota. This effort began in 1989 with over 570 birds released on Rota to date. In the last several years, nesting and unbanded birds have been observed on Rota. However, cat predation remains as a major obstacle to the establishment of rails on Rota.

Micronesian Kingfisher

The Guam Micronesian Kingfisher (*Halcyon c. cinnamomina*) is endemic to Guam. This sexually dimorphic kingfisher is a forest bird, nests in cavities and lays 1-2 eggs. Once found throughout the island in forested habitats of north and southern Guam (Jenkins 1983),. it to was decimated in the wild by the brown treesnake. Nesting in holes it dug into the trunks of rotten tree trunks, it became easy prey to snakes.

In the 1980s, 19 founding kingfishers were brought into captivity and were the founding birds of the captive population. Though initial captive breeding efforts were successful, recently cannibalism and low survivorship have been obstacles to increasing the captive flock. Facilities are just now being built on Guam to try and help with captive breeding effort.

Mariana Crow

The Mariana Crow (*Corvus kubaryi*) is one of only three native forest birds persisting in the wild on Guam, all of which are endangered. Formerly found island-wide, heavy snake predation has caused crow numbers to dwindle from about 360 birds in 1981 to fewer than 7 birds in 1999 restricted to the northern end of the island (Baker, 1951; Engbring and Ramsey 1984; Wiles et al. 1995; C. F. Aguon, unpublished data). Mariana Crows also occur on the neighboring island of Rota, where a population of 300-600

remains (National Research Council 1997, Fancy et al. 1999, J. Morton unpublished data).

Mariana crows will lay 1-3 eggs per clutch and may lay multiple clutches if the nest is lost for any reason during the breeding period. Incubation period is 19-20 days and young are fledged in about 40 days. Juvenile birds will usually stay with these parents until the following season, though juveniles may remain with the parents through a second season (Aguon, unpublished notes).

Mariana Fruit Bat

The Mariana fruit bat occurs throughout the Marianas islands. The Guam population was federally listed on the Endangered Species List in 1984. Several thousand bats were believed present on Guam in the 1950s (Woodside 1958) to as low as 50 in 1978 (Wheeler and Aguon 1978). By 1982, the population had increased to 850-1000 bats (Wiles 1987a). Population increases were probably due to migration from the nearby island of Rota. Currently, the population survives with less than 200 bats mainly in northern Guam with solitary individuals found throughout the island.

Colonies are known to be segregated into harems and bachelor groups. The harems are known to contain 2-15 females per male. Harem males defend their harems though females are not necessarily fixed to any one harem (Wiles 1987b). While vegetation characteristics important to fruit bats remained intact, poor survivorship of pups was documented (Wiles 1987b). Brown treesnake predation was cited as the principle cause of poor success.

Sea Turtles

The green sea turtle (*Chelonia mydas*) is both federally and locally listed as threatened. The hawksbill sea turtle (*Eretmochelys imbricata*) is both federally and locally listed as endangered. Guam has both resident and nesting populations for both species. Threats to sea turtle populations include degradation of coastal and marine habitats, illegal harvest, and predation, especially by introduced species. Guam's nascent sea turtle recovery program has suffered from a lack of stable funding and a shortage of manpower. However, at a stakeholder meeting in January 2003, partner agencies (GDAWR, U.S. Air Force, U.S. Navy, U.S. Fish and Wildlife Service, and National Oceanic and Atmospheric Administration) committed to funds, satellite time, and additional manpower, and agreed to develop a 5-yr. plan. In-water captures and additional satellite tagging are ongoing under the current NMFS funding. A pilot volunteer program was established in February 2003 with an established extracurricular club at a local high school. Members of the club have been training with DAWR staff, conducting nesting beach surveys, and developing the design for a poster, showcasing the cultural importance of sea turtles in Guam.

Table 3: Guam Marine Biodiversity

Group	Number of Species	Sources
Sea Grasses	3	*Lobban and Tsuda 2003*
Benthic Macroalgae	237	*Lobban and Tsuda 2003*
Sponges	110	*Kelly et al 2003*
Foraminiferan	303	*Richardson and Clayshulte 2003*
Platyhelminthes	59	*Newman et al 2003*
Hydroids	42	*Kirkendale and Calder 2003*
Polychaetes	104	*Bailey-Brock 2003*
Non-scleractinian Corals	119	*Paulay et al 2003*
Scleractinian Coral	377 *	*Randall 2003*
Hydrozoan Corals	26 *	*Randall 2003*
Bivalves	339	*Paulay 2003*
Prosobranch Gastropods	895	*Smith 2003*
Opistobranch Gastropods	467	*Carlson and Hoff 2003*
Cephalopods	21	*Ward 2003*
Cirripedia	24	*Paulay and Ross 2003*
Crustaceans	663	*Ahyong and Erdmann 2003, Paulay et al 2003b, Castro 2003, Tan and Ng 2003, Kensley 2003*
Echinodermata	196	*Paulay 2003, Starmer 2003, Kirkendale and Messing 2003*
Ascidians	117	*Lambert 2003*
Sea Turtles	3	*Eldredge 2003*
Marine Mammals	13	*Eldredge 2003*
Shorefishes	1019 *	*Myers and Donaldson 2003*
Total Species:	**5137**	

* Number of species is for the entire Mariana Archipelago. The actual number for Guam may be lower.

Table 4. Guam endangered species (F = federal listing, G = Guam list, T = federal threatened listing).

Chamorro Name	English Name	Scientific Name
Birds		
Koko (F/G)	Guam Rail	*Gallirallus owstoni*
Pulattat (F/G)	Common Moorhen	*Gallinula chloropus guami*
Totot (G)	Mariana Fruit-Dove	*Ptilinopus roseicapilla*
Puluman apaka/fache (G)	White-throated Ground-Dove	*Gallicolumba x. xanthonura*
Yayaguak (F/G)	Island Swiftlet	*Aerodramus vanikorensis bartschi*
Sihek (F/G)	Micronesian Kingfisher	*Halcyon c. cinnamomina*
Aga (F/G)	Mariana Crow	*Corvus kubaryi*
Chuguangguang (F/G)	Guam Flycatcher	*Myiagra freycineti*
Chichirika (G)	Rufous Fantail	*Rhipidura rufifrons uraniae*
Sali (G)	Micronesian Starling	*Aplonis opaca guami*
Egigi (G)	Micronesian Honeyeater	*Myzomela rubratra saffordi*
Nossa (F/G)	Bridled White-eye	*Zosterops c. conspicillata*
Mammals		
Fanihi (F/G)	Marianas Fruit Bat	*Pteropus m. mariannus*
Fanihi (F/G)	Little Marianas Fruit Bat	*Pteropus tokudae*
Payesyes (G)	Pacific Sheath-tailed Bat	*Emballonura semicaudata*
Reptiles		
Haggan Betde (T)	Green Sea Turtle	*Chelonia mydas*
Haggan Karai (F/G)	Hawksbill Sea Turtle	*Eretmochelys imbricata*
Achiak (G)	Oceanic Gecko	*Gehyra oceanica*
Guali'ek (G)	Micronesian Gecko	*Perochirus ateles*
Guali'ek (G)	Pacific Slender-toed Gecko	*Nactus pelagicus*
Guali'ek Halom Tano' (G)	Snake-eyed Skink	*Cryptoblepharus poecilopleurus*
Guali'ek Kantun Tasi (G)	Tide-pool Skink	*Emoia atrocostata*
Guali'ek Halom Tano' (G)	Azure-tailed Skink	*Emoia cyanura*
Guali'ek Halom Tano' (G)	Slevin's Skink	*Emoia slevini*
Guali'ek Halom Tano' (G)	Moth Skink	*Lipinia noctua*
Molluscs		
Akaleha' (G)	Guam Tree Snail	*Partula salifana*
Akaleha' (G)	Mariana Islands Tree Snail	*Partula gibba*
Akaleha' (G)	Pacific Tree Snail	*Partula radiolata*
Akaleha' (G)	Mariana Islands Fragile Tree Snail	*Samoana fragilis*
Plants		
Tsatsa (G)	Tree-Fern	*Cyathea lunulata*
Hayun-lago (F/G)		*Serianthes nelsonii*
Ufa-halomtano(G)		*Heritiera longipetiolata*

GUAM NATIONAL WILDLIFE REFUGE OVERLAY

In June 14, 1991, the USFWS published notice of the intent to establish the Guam National Wildlife Refuge Overlay in the Federal Register (Vol 56, No. 115, pp. 27485-27493). The National Wildlife Refuge Overlay was established in December 1993 creating the 24,000-acre GNWRO. The Memorandum of Understanding between the US Fish and Wildlife Service, the US Navy, and the US Air Force established the overlay units of the Guam National Wildlife Refuge. The goal of this MOU was to develop cooperative agreements for the management of Guam's natural resources on federal and conservation lands. The Government of Guam declined to be part of the agreement at that time. The US Air Force signed a Cooperative Agreement with the U S Fish and Wildlife Service with the purpose of establishing the overlay units on lands administered by the US Air Force on Guam, and to define the management and administrative roles and responsibilities of the Air Force for the GNWRO. The USFWS withdrew the proposal to designate critical habitat as a result of the agreements and MOUs with DOD. Stipulated in these MOUs and agreements is the possible withdrawal as a result of the designation of critical habitat on Air Force and Navy lands.

Therefore we argue that the proposal of including Government of Guam Conservation Lands in a conservation management plan is a more comprehensive and thereby a better alternative for habitat conservation and species recovery than Critical Habitat. It will include additional cooperative partners in the management of Guam's natural resources, and especially the recovery of Guam's endangered species.

The CHA will seek to:

1.) Commit essential specified Government of Guam Lands to the Conservation of Endangered Species.
2.) Commit the Government of Guam to an ecosystem approach to natural resource management for Guam's natural resources.
3.) Provide the foundation for a partnered natural resources and endangered species management agreement.

Guam's Department of Agriculture's Division of Aquatic and Wildlife Resource has successfully completed many of the tasks in the Service's recovery plans for the native forest birds and bats of Guam. This points out the proactive management by the Government of Guam in performing endangered species recovery on DOD lands identified as critical to the recovery of endangered species. The Government of Guam has committed to continuing these efforts. Critical Habitat does not ensure these efforts nor will it provide the additional land and coastal efforts offered in this proposal.

The CHA is a better alternative to CH and builds on the existing efforts. I therefore formally request the USFWS accepts Guam's CHA in place of Critical Habitat and revisits a partner agreement between all land holders.

Critical Habitat designation alone would likely impose CH standards only on the Government of Guam, and private Guam landowners. On the other hand, CH would allow the military bases in Guam – about 85% of the land covered by the Service's

proposal to substitute their INRMPs thereby avoiding CH determination on their property. This would leave only GovGuam and private landowners with the regulatory burden of CH. This decision would result in the stagnation of recovery tasks and a delay in the reintroduction and delisting of Guam's native species. Furthermore, funding and active management by the Service at the GNWOR would be lost.

There is also a real possibility that the Air Force and Navy may choose to exercise their option under the MOU and withdraw entirely from the overlay Refuge.

It is our hope that the Service will give serious consideration to this proposed alternative to CH. We firmly believe that the recovery and conservation of Guam's endangered species will be greatly enhanced if our proposed alternative to CH is adopted.

GUAM CONSERVATION AREAS

The conservation lands belonging to the Government of Guam and to be reserved for the conservation of endangered species are: Anao Conservation Area, 695 acres, Bolanos Conservation Area, 2,830 acres, Cotal Conservation Area, 552 acres, Asdonlucas Conservation Area, 471 acres, all totaling 4,548 acres (Figure 1).

The Anao Conservation Area contains forests on the upper plateau and windblown vegetation along the coastal cliffs. This area provides a contiguous band of cliffline forests north to the Pati area and west towards Ritidian Point (part of the designated critical habitat). Access to the area is via a single dirt road to a footpath that leads down the cliff to the coast. No developed recreational facilities are present. However, hikers, hunters, and fisherman use the area. An "educational trail" was established along the footpath. Fruit bats probably forage in the forests of the conservation area.

Asdonlucas (471 acres) contains similar habitats to the Anao area. Access to the area is greater because of the privately owned property in the area.

The Balonos Conservation area is managed by GDAWR for hunting and outdoor recreation. The area is composed of grassland (*Miscanthus floridulus*) and mixed forest of native and alien species. The area probably contained much ravine forest as well that provided habitat for the native fauna. Furthermore, as with the Anao Conservation Area, the Balonos area provides contiguous habitat with the Naval Ordnance Area, part of the southern Refuge Overlay. The difficult access to area limits uses to hikers and hunters and local people collecting forest products. The mosaic of fire-dominated vegetation poses a challenge to resource managers.

The Cotal Conservation Area is predominated by grassland. Efforts to improve the area have been met by repeated man induced burns. A stream is present in the area and provides for indigenous freshwater fauna and impacts reef protection. At present, this area provides little forest values and is not connected to the southern Refuge Overlay. This area is accessible by the general public. Potential reforestation efforts combined with public education activities may be implemented in this area.

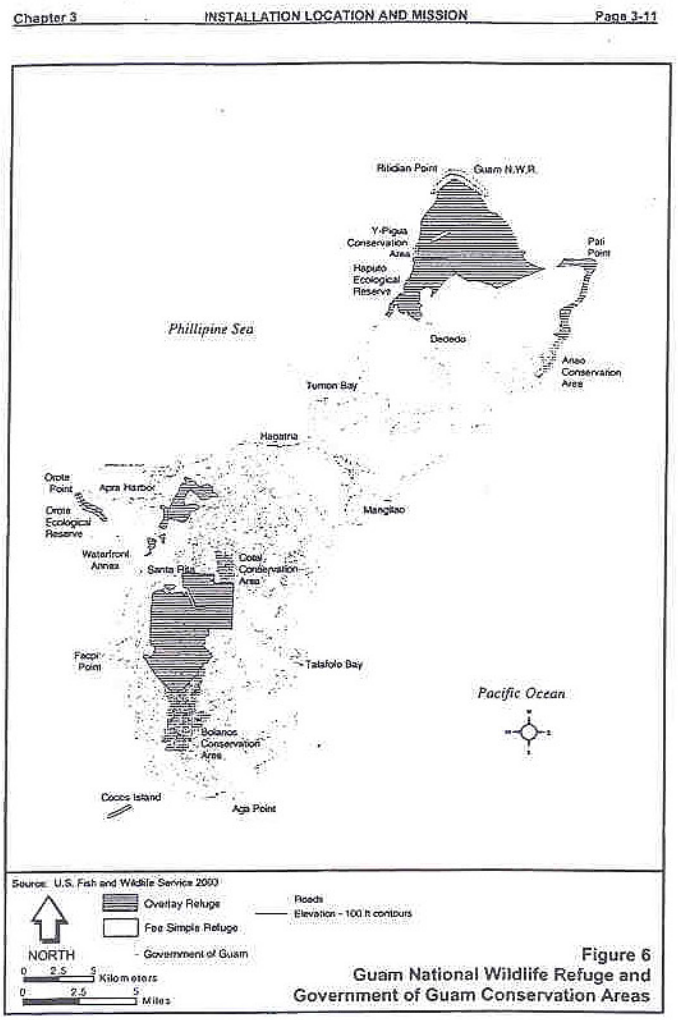
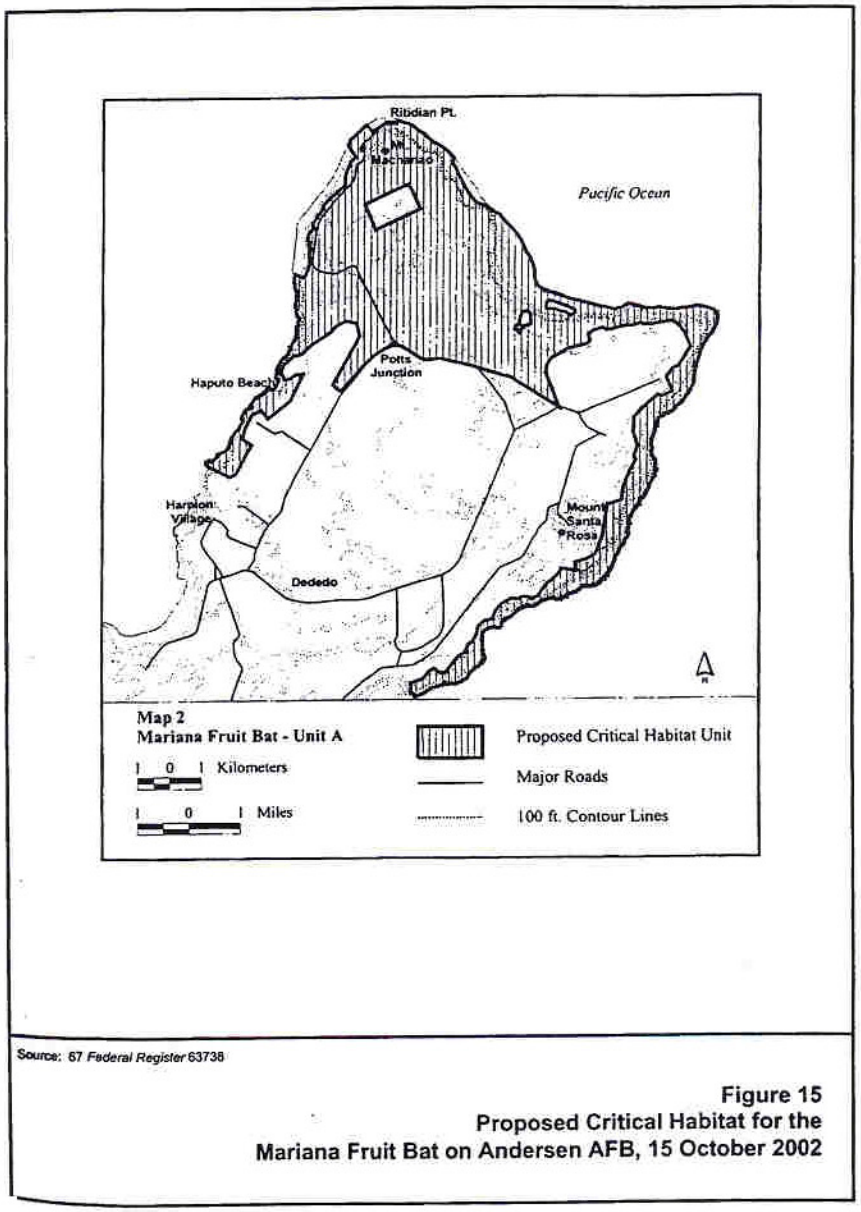


Figure 1. Boundaries of the refuge, GG CL, etc.



Source: 67 *Federal Register* 63738

Figure 15
Proposed Critical Habitat for the
Mariana Fruit Bat on Andersen AFB, 15 October 2002

INRMP

Figure 2. Proposed boundaries of critical habitat for the Mariana Fruit Bat.

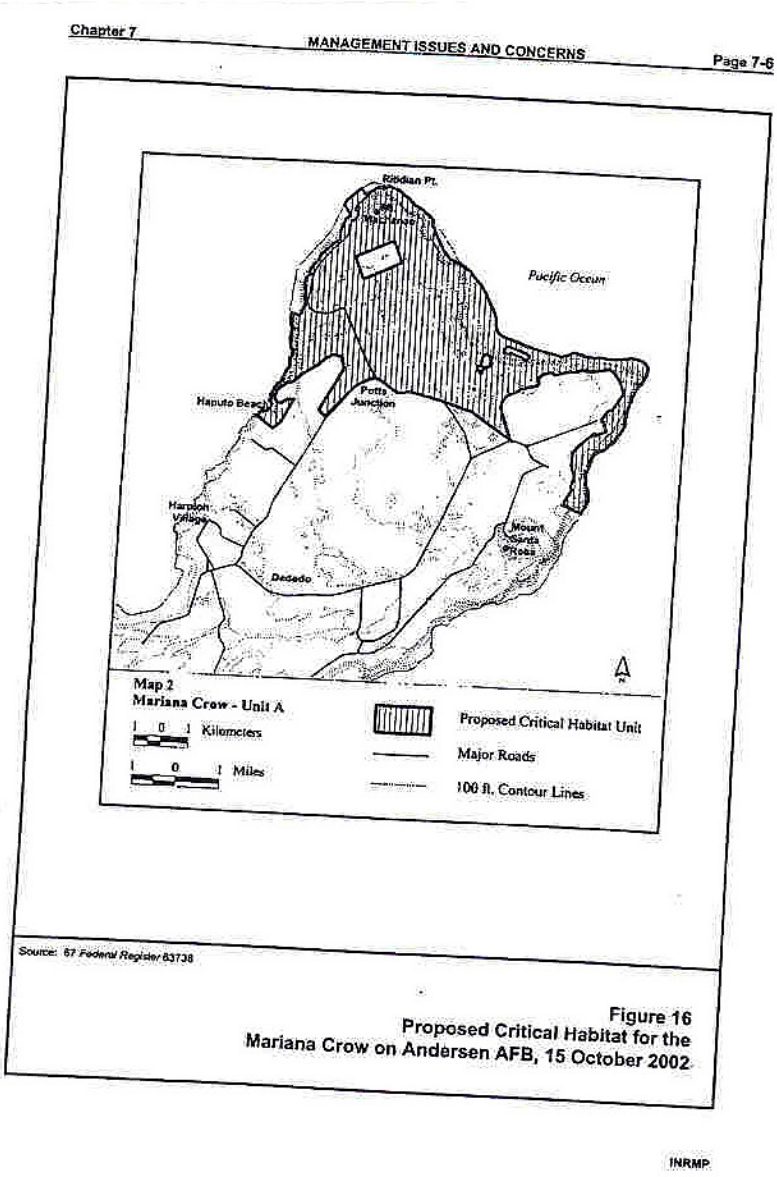


Figure 3. The proposed critical habitat area for the Mariana Crow.

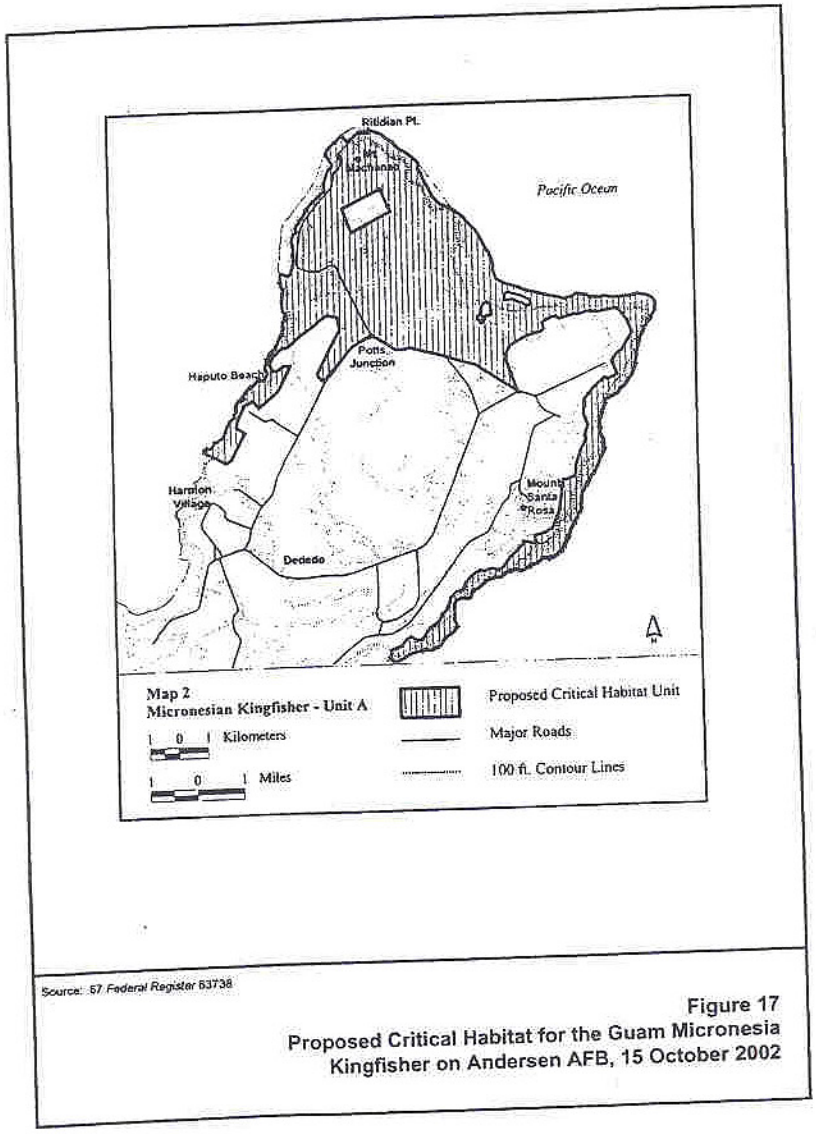


Figure 4. Proposed critical habitat boundaries for the Micronesian Kingfisher.

Management Goals and Objectives:

I. Conservation Lands Projects

A. Provide maximum legal protection for the habitats for preserving and enhancing recovery of wildlife to Guam.

a. Objective: Commit Government of Guam lands identified as essential to the recovery of endangered species to the conservation, protection and recovery of these species and the associated ecosystems.

Implementation: Work with the USFWS to complete an agreement adopting a management plan for the recovery of endangered species on Government of Guam land that melds with other essential recovery lands.

b. Objective: Develop cooperative agreements for management, research and protection of endangered species in the conservation areas.

Implementation: Develop MOUs with the University of Guam, USDA, and other entities to strengthen mission.

c. Objective: Develop Safe Harbor Agreements with private landowners in other areas adjacent to Conservation Land where wildlife may benefit.

Implementation: Develop Safe Harbor Agreements with private landowners in adjacent property to become partners in recovery of Guam's species.

d. Objective: Determine boundary lines for all the Conservation Lands.

Implementation: Conduct a Government land survey of all Conservation Lands.

B. Assess the current state of the habitat, develop and implement plans to take appropriation actions to improve the habitat, or else maintain habitat as native forestland.

a. Objective: Continue to improve the recently completed plant inventory and map out key habitat types – input into GIS system.

Implementation: Work with the DOF and University of Guam in developing vegetation inventory of Guam in Conservation Lands.

b. Objective: Develop plans to improve habitats in the four Conservation areas – to include reforestation, and control of invasive plants.

Implementation: Assist the Division of Forestry in developing plans to include reforestation programs of Guam's CL to include the control and removal of invasive, noxious plant species.

c. Objective: Replant key plant species and eliminate or reduce herbivory by ungulates.

Implementation: DOF will implement replanting of key plant species.

e. Objective: Convert savanna areas to native forestland suitable for native species of animals.

Implementation: Assist DOF with planting fast growing native and non-native species to begin the reforestation CLs.

f. Objective: Protect areas with Firebreaks to protect vulnerable areas from grassland fires.

Implementation: Establish and maintain secondary roadways that encircle key Conservation Lands.

g. Objective: Protect native trees and plants from human destruction.

Implementation: Develop regulations that restrict the harvesting of native trees and wood within the Conservation Lands.

h. Objective: Allow the harvesting of a limited amount of plants for medicinal purposes.

Implementation: Establish a schedule of permits for harvesting medicinal plants.

i. Objective: Determine the status of *Tabernaemontana* on CLs.

Implementation: Coordinate the inventory with GDAWR, AAFB and Navy.

C. Reduce or eliminate Brown treesnake predation.

a. Objective: Determine the appropriate snake control measures suitable for each of the Conservation Areas.

Implementation: GDAWR/USDA-WS and NWRC, USGS-BRD will determine what appropriate snake control measure may be used for each

of the areas.

b. Objective: Develop plans to control and/or eliminate brown tree snakes in Anao/Asdonlucas Area.

Implementation: Implement snake control in area.

c. Objective: Control snakes in Cotal Conservation Area.

Implementation: Implement snake control in area program upon establishment of forests.

d. Objective: Control snakes in the Bolanos Conservation Area.

Implementation: Implement appropriate snake control measures in the conservation area.

e. Objective: Control snakes in CL.

Implementation: Continue current brown treesnake control programs.

D. Restore wildlife to the designated habitats.

a. Objective: Determine the status of wildlife in each of the conservation areas.

Implementation: Inventory fauna within each conservation land including: birds, mammals, reptiles, and insects. Inventory all areas in CL that may harbor Common Moorhen.

b. Objective: Identify the availability of caves suitable for swiftlet introduction and snake control.

Implementation: Inventory CL and Overlay for caves and identify potential caves for Brown treesnake control and translocation of birds from Navy.

c. Objective: Reintroduction native wildlife to conservation lands.

Implementation: Coordinate reintroductions from other projects with introductions to conservation lands.

d. Objective: Continue captive breeding efforts of endemic wildlife.

Implementation: Captive breeding program forGuam rails and Micronesian kingfishers and hand-rearing efforts for the Mariana crow.

e. Objective: Incorporate action plans that are in existing Recovery Plans for Endangered Species that are appropriate to the conservation areas.

f. Objective: Incorporate INRMPs to plans for CL.

g. Objective: Establish native birds species in CL.

Implementation: Continue reintroduction efforts of native birds in concert with brown treesnake control.

E. Development of a Public Conservation Awareness Program.

a. Objective: Educate public of the value of preserving Guam's wildlife and habitats.

Implementation: Develop a plan to address public awareness and education of conservation issues.

b. Objective: Enhance and facilitate public involvement with conservation.

Implementation: Develop programs to allow the public to explore and experience Guam wildlife and habitats.

c. Objective: Enhance public understanding of the natural resources.

Implementation: Develop a program to install signage and other forms of public outreach.

F. Recreation Activities within the CL

a. Objective: Establish hunting in designated areas.

Implementation: Establish hunting areas or zones. These areas will be off limit to hiking and other activities that may compromise the safety of the public.

b. Objective: Allow camping in designated areas.

Implementation: Establish areas where camping will be allowed without compromising the integrity of the CL.

Ongoing Recovery Projects.

A. Section 6 Endangered Species Recovery Projects:

GDAWR has a variety of projects funded under the Endangered Species Section 6 program. In addition, there are a list of projects that fall under this program that were not funded but remain important in recovery of the species. Complete details of the listed projects may be found in the Appendix.

Subproject A: Reproductive Enhancement of the Mariana Crow and Other **Endangered Species.**

Job 1: Study the reproductive biology of the Mariana crow.

Objectives:

1. Staff will monitor active crow nests as often as daily, recording the number of copulations prior to the start of egg laying and incubation, frequency and length nest of attendance, duration of the incubation period, egg turning rates, and after hatching, the rates of feeding and brooding.

2. Retrieve and candle each egg in Mariana crow nests discovered to determine fertility: leave dummy eggs in the nests, retain infertile eggs for further analysis, and bring back all fertile eggs for artificial incubation with placement of hatchlings in their original nests. Continue monitoring nests daily and record chick's behavior, development, and overall health and provide medical care if needed.

3. During this same period, record incidental observations of the effects of the presence of Black drongos, the effects of aircraft over-flights, the effects of other crows, and the effects of loud noises on nesting crows as they might affect nest abandonment or otherwise limit reproductive success.

4. Map movements of crows during the breeding (September—April) and non-breeding season (April—August); analyze crow movement patterns to determine home range and breeding territory; and correlate with vegetation types to determine specific habitat requirements during the breeding and non-breeding season.

5. Conduct annual surveys during the month of July using playback calls to determine the number and distribution of crows. Use this information and records of incidental sightings made during the year to develop estimates of the crow population.

Location:

Areas of Northwest Field, Conventional Weapons Storage Area, and AAFB proper where crows are known to occur.

Job 2: Area -wide brown treesnake control.

Objectives:

1. To protect annually 2-10 Mariana crow nest trees with electrical barriers. Create snake-controlled areas through the implementation of area-wide snake control.

2. Conduct area-wide snake control using both perimeter and grid-trapping to remove snakes from areas where fledgling crows are expected to be produced.

Job 3: Crow Translocations from Rota.

Objectives:

1. Obtain necessary permits from the U.S. Fish & Wildlife Service and the Government of the Commonwealth of the Northern Mariana Islands prior to the breeding season to take up to 18 Mariana crow eggs or chicks from active nests on Rota for translocation to Guam.

2. Band and collect blood samples from all chicks and hatchlings produced on Guam; and tag and instrument all birds for release with radio transmitters.

3. Refine techniques for hacking hand-reared crows into the wild on Guam and develop a standard operating procedure for future releases.

4. Analyze data to determine the need for additional releases to prevent the Guam population from becoming extinct.

5. Monitor re-nesting efforts of crow pairs on Rota from which eggs or chicks were taken to determine if these pairs were successful in replacing the harvested clutch.

SubProject B: Avicultural Management for Rails, Kingfishers and Crows.

Job 1. Captive Propagation of Guam rails.

Objectives:

1. Build 8 -10 stall (equaling up to 80 individual bird hold cages) steel framed Guam rail holding cages at the GDAWR.

2. Increase the number of actively breeding pairs of Guam rails at the GDAWR facilities until a maximum of 22 pairs is reached.

3. Produce at least 5 Guam rails from each pair of rails annually. (Full production potential of GDAWR will be an average of 110 rails annually.)

4. Maintain a minimum of 80 individual Guam rails at mainland zoo facilities for captive breeding.

5. Manage the rail population genetically by using a two-population system. The Guam population will be managed as the 'production' population and the mainland population will be the 'insurance' population.

6. Transfer a minimum of three Guam rails per year from the production population to the insurance population until the insurance population contains the full range of genetic diversity. Guam birds transferred will be descendants from founder lineages underrepresented in the mainland population.

Job 2: Mariana crow avicultural support.

Objectives:

1. From crows on Guam, produce at least 1 surviving nestling each year per pair through inducement of multiple clutches, incubating eggs, hand-rearing young, and releasing into the wild.

2. From up to 18 crow eggs and/or chicks translocated from Rota to Guam annually, artificially incubate, hatch, hand-rear and release into the wild on Guam.

3. As appropriate provide avicultural support to the Rota crow population by incubating salvaged eggs and hand-rearing chicks for return and release on Rota.

4. Build 4 additional snake-proofed outdoor aviaries sufficient to hold all birds produced for translocation or for enhancing the genetic pool of the insurance population.

Job 3: Captive propagation of the Guam Micronesian kingfisher.

Objectives:

1. Hire one biologist with extensive Micronesian kingfisher husbandry experience before the onset of the 2005-breeding season and before November 2004. Hire another biologist with extensive Micronesian kingfisher husbandry experience before the onset of the 2005-breeding season.

2. Cross-train three GDAWR staff with successful mainland zoo kingfisher staff during the breeding months.

3. Establish one pair of kingfishers at the Guam facility by FY 2004.

4. Construct a Micronesian kingfisher facility in three phases:
Phase 1: Construct one breeding enclosure in the Guam Rail Captive Breeding Facility.
Phase 2. Two breeding pens and six holding pens erected in an area designated as the future Micronesian Kingfisher Captive Breeding Facility.
Phase 3. Construct 2-3 more breeding enclosures as well as additional holding pens on Department of Agriculture property.

5. Establish ten breeding pairs of kingfishers on Guam by transferring four kingfishers (an even number of male and female) annually from mainland zoos over five years.

6. Produce annually a minimum of two offspring from each pair of kingfishers until the maximum of 20 offspring/year is reached.

Subproject C: Establishment of Non-essential Experimental Population of Guam rails on Rota, CNMI.

Objectives:

1. Establish a self-sustaining non-essential, experimental wild population of 1000 Guam rails in suitable habitat on Rota, CNMI, by FY05.

2. Release up to 100 rails per year from the captive-breeding program at the GDAWR and mainland zoo facilities in various areas of northeastern Rota. The releases will take place in January and July with 50 birds per release. The rails will be genetically unimportant to the maintenance of the captive gene pool (*i.e.* from over-represented family lines) and in excess of numbers needed for maintaining the integrity of the captive populations.

3. Monitor survival, dispersal, reproduction and establishment of released rails by attaching radio transmitters to 25% of released birds. A three-

person team will monitor rails daily following the first 28 days of each release. Monitoring will then take place on a monthly basis for one week per month following the first month of each release. Monitoring will take place by ground and aerial surveys for the life of the transmitters or the birds (whichever ends first).

1. In FY06 and FY07 begin, complete and publish report on establishment of rails on Rota.

Subproject D: Establishment of Populations of Endangered Species of Flora and Fauna in Snake-Free Areas on Guam.

Job 1. Re-establishment of Guam rails and Mariana crows to the native forests of Guam.

Objectives:

1. Develop criteria for designating natural areas on Guam as "snake-control" beginning of FY04.

2. Continue snake trapping in Area 50 eventually leading to full eradication of brown treesnakes in FY04.

3. Conduct an intensive animal control program from October 2004 to September 2005 to eliminate introduced deer (*Cervus mariannus*), feral pigs (*Sus scrofa*), and feral cats (*Felis felis*) from Area 50, with total eradication of all species to be achieved no later than April 2005.

4. Establish up to 10 random 12-m circular vegetation plots in Area 50 in FY04 and resurveyed annually until FY 2007 at the same time period.

5. Establish 20 12-m circular vegetation-monitoring plots in MSA in FY05 and then survey annually. Monitor all plots until FY 2007.

6. Conduct quarterly surveys of small mammals and lizards in Area 50 before and after snakes are removed to evaluate effects of snake eradication.

7. Release 20 Guam rails harnessed with radio transmitters in Area 50 in FY04 and 05. These releases will be used to further develop on census techniques for determining survival and reproductive success.

8. Release 50 Guam rails in MSA in November 2003 and FY06. Half the rails will be harnessed with radio transmitters and monitored daily for the

first 28 days after the release. Tracking will then take place on a weekly basis for the life of the transmitters or the birds (whichever ends first).

10. Re-introduced *Serianthes nelsonii* taken from an established nursery to locations in or near vegetation plots in Area 50 and MSA once introduced deer and pig are eliminated (Area 50) or controlled (MSA).

Job 2. Re-establishment of Micronesian kingfishers to the native forests of Guam.

Objectives:

1. Construct "Acclimation Cages" in the wild in Area-50 to hold up to a pair of Micronesian kingfishers in June 2006.

2. Upon construction of Munitions Storage Area snake barrier, in AAFB, release a single kingfisher pair in protected in the area in FY 07.

3. Establish wild breeding population of kingfishers within 10 years of the initial releases.

Job 3. Re-establishment of Guam's native forest avifauna to snake free areas on Guam.

Objectives:

1. To repatriate Guam's other native forest avifauna into snake free areas on Guam initially in Area 50 and the Munitions Storage Area, AAFB.

2. Develop and implement protocols for the capture and translocation of native avifauna in the CNMI for reintroduction to Guam.

3. Reintroduce each species in equal male to female ratio. The number of individuals released will depend on the size of the snake free location.

4. Monitor survival by attaching radio transmitters to released birds. Tracking will take place on a daily basis until the life span of the transmitter or the bird (whichever comes first).

5. Conduct biannual censuses to monitor reproductive success and survivorship following the first two years of release. Continue censusing annually thereafter.

6. Establish wild breeding populations of Guam's native avifauna within 5 years of the eventual releases.

B. WILDLIFE RESTORATION PROJECTS:

SUBPROJECT A: Management of Guam's populations of Birds and Mammals
STUDY NO: W-1 Game and Non-game Birds

Job 1. Survey and Inventory of Resident and Migrant Birds of Guam and Rota

Objectives:

1. To determine population trends, distribution and breeding status of the Mariana `` crows by conducting monthly searches for birds in northern Guam.

2. To determine population trends, distribution and breeding status of the Guam swiftlet by conducting quarterly cave counts of birds entering and exiting active caves, the Mahlac, Maemong, and Fachi caves and surveying these caves for nesting birds.

3. To determine population trends of other game (black francolin) and non-game birds (yellow bittern, blue breast quail, Micronesian starling, Eurasian tree sparrow, white tern, brown noddy, and migrant species) by conducting annual roadside surveys throughout the island.

4. To determine population trends and distribution of Guam rails on the island of Rota in areas where they occur including the Sagua Gaga, I Chiugai, Gampapa by conducting playback surveys along transects and roadways. Conduct same surveys in the area known as Area 50, Northwest Field, Guam.

5. Record and confirm noteworthy sightings of migrant bird species ß

SUBPROJECT A: Management of Guam's populations of Birds and Mammals
STUDY NO.:W-2 Native mammals

Job 1. Population Biology of Marianas Fruit Bats in the Mariana Islands

Objectives:

Determine population trends and age-structure of fruit bats on Guam by conducting monthly counts of known roost sites including the Andersen Air Force Base roost.

SUBPROJECT A: Management of Guam's Populations of Birds and Mammals
STUDY NO:W-3 Introduced mammal investigations

Job 1. Population biology of deer and feral Asiatic water buffalo.

Objectives:

1. Determine deer abundance by conducting monthly spotlight counts at Pati Point, Munitions Storage Area (MSA) and Northwest Field on Andersen Air Force Base (AAFB), Naval Computer and Telecommunications Station (NCTS) and Naval Ordnance Annex (NOA).

2. Determine feral carabao abundance in conjunction with the monthly counts on NOA.

3. Document note worthy sightings of deer and feral carabao.

SUBPROJECT A: Management of Guam's populations of Birds and Mammals
STUDY NO:W-4 Monitoring Harvest of Game Mammals and Birds

Job 1. Harvest of deer, feral pigs, feral carabao and black francolin.

OBJECTIVES:

1. Determine the hunter harvest of deer, feral pigs and black francolin by analyzing mandatory hunter questionnaires and hunter logs from Andersen Air Force Base.

2. Tabulate depredation permit take of deer, feral pigs, feral carabao and black francolin based on monthly Depredation Reports, which are required of all permitees for the duration of their permit.

SUBPROJECT B: Natural History And Ecology Of Guam's Vertebrates
STUDY NO: W-1 Threatened and Endangered Species Investigations

Job 1. Natural History of Marianas Fruit Bats in the Mariana Islands

Objectives:

1. To determine home range, habitat requirements and activity patterns of the Mariana fruit bat in northern and southern Guam by radio fitting 15 individuals each in FY 2002 and 2003, banding at least 40 bats, and by making observations of bats at the roost colony opportunistically during the two years. Complete report in FY 2004.

2. Complete written reports on food habits, reproduction, and social organization of fruit bats, based on data collected during the past eight years. Complete report on foraging range of fruit bats by Gary J. Wiles.

SUBPROJECT B: Natural History And Ecology Of Guam's Vertebrates
STUDY NO: W-1 Threatened and Endangered Species

Job 2. Natural History of Endangered Birds.

Objectives:

1. To determine estimated population size, nesting success, home range, habitat requirements and activity patterns of Mariana crows in northern Guam in the Andersen Air Force Base Area, and on Rota.

2. To determine the nesting success and activity patterns of the Guam swiftlets at the Mahlac, Fachi and Maemong caves.

3. To determine estimated population size, clutch size, nesting success and activity pattern of Guam rails in Area 50 and on Rota.

SUBPROJECT B: Natural History And Ecology Of Guam's Vertebrates
STUDY NO.: W-3 Game Mammal Investigations

Job 1. Management of Philippine Sambar Deer on Guam

Objectives:

a. To determine impact of Philippine Sambar deer on native forest resources by conducting deer browse surveys in conjunction with deer density estimates islandwide. To determine the home range, nocturnal/diurnal activity and breeding biology of deer on Guam.

b. To develop a comprehensive management plan for deer on Guam that will manage deer at population levels compatible with protection of native forest resources.

c. To supervise and monitor implementation of a comprehensive management plan for deer on Guam.

SUBPROJECT B: Natural History And Ecology Of Guam's Vertebrates
STUDY NO: W-3 Game Mammal Investigations

Job 2. Management of Feral Pigs

Objectives:

1. To develop a comprehensive management plan for feral pigs on Guam in FY 2004 and 2005 that will manage pig populations at levels compatible protecting with native forest resources.

2. To supervise and monitor the implementation of the comprehensive management plan for feral pigs on Guam.

SUBPROJECT B: Natural History And Ecology Of Guam's Vertebrates
STUDY NO.: W-4 Non-Game Mammal Investigations

Job 1. Eradication of Feral Asiatic Buffalo on Naval Ordnance Annex, Guam

Objectives:

1. To develop by a comprehensive eradication plan for feral Asiatic water buffalo on Naval Ordnance Annex by FY '05 utilizing available data and citizen participation in two public meetings.

2. Implement the feral Asiatic water buffalo eradication plan using reliable control techniques.

STUDY NO. W-1 Technical Assistance

Objectives:

1. To minimize the adverse impacts resulting from the construction of recreational, commercial, military and public facilities. Report on the number of projects reviewed and provide information on the amount of habitat preserved, mitigations implemented, etc.

2. Participate in emergency responses to salvage wildlife and to participate in emergency exercises that involve responding to accidental oil and toxic substance spills on wildlife.

3. To ensure that development and utilization of Guam's coastal and interior areas does not result in the deterioration of the environment.

4. To pursue the possibility of establishing safe-harbor, habitat conservation plan agreements with private and other non-federal landowners to encourage the protection and enhancement of lands conducive to native wildlife.

Study No.: W-1 Hunter Education

Job 1. Hunter Education Program of Guam

Objectives:

1. To develop a hunter education program for the Territory of Guam during FY '02-03 that will provide hunter training in the safe use of rifles and shotguns, hunter responsibility and ethics, and knowledge of wildlife resources.

2. To implement a hunter education program for the Territory of Guam by FY'04 with a target of 12 courses held and issuance of 200 certificates annually.

PROJECT TITLE: Coordination of Guam's Wildlife Programs
STUDY NO.: W-1 Coordination
PROJECT TITLE: Hunter Education Program

Objectives:

To plan, coordinate, supervise, and administer all wildlife restoration programs including programs in wildlife population monitoring, implementing of management plans, and ensuring legislation that affect Guam's wildlife are in alignment with other regulations.

III. Endangered Species Project Proposed but Unfunded

Job 4: Recovery of Serianthes Nelsonii.

Objectives:

1. Construct and operate a small insect-free nursery for raising seedlings of *S. nelsonii.* This will be accomplished during fiscal years 2004 through 2005.

2. Propagate and outplant 50-200 seedlings each year to enhance restoration of *S. nelsonii.* This will be accomplished during fiscal years 2006 through 2007.

Subproject E: Recovery of the Island Swiftlet.

Objectives:

1. Reduce brown treesnake number at the Mahlac Cave Swiftlet colony through the use of 21-36 traps deployed inside and outside the entrance and in the surrounding forest for 6-8 weeks in November-December and again for 6-8 weeks in April-May in FY04 and 05. This will be accomplished during FY04–05.

2. Census swiftlet population monthly to detect changes in breeding success and hatchling survival that could be attributed to reduction of brown treesnake numbers at the Mahlac Cave colony.

Job 1. Snake trapping at island swiftlet colony sites.

Subproject F: Home Range and Life History of the Mariana Moorhen on Guam.

Objectives:

1. Capture up to 12 Common moorhen on Guam and instrument with radio transmitters to determine seasonal movements of adults and dispersal of juveniles.

2. Conduct nest observations of 10 nests to determine, clutch size, patterns of nest attendance, hatch rates, parental care, and dispersal.

3. Conduct monthly surveys of the Fena Reservoir and other known moorhen sites to determine seasonal distribution patterns, abundance, and population trends.

Project Title: Guam Sport Fish Investigations
Sub-Project F-1: Management of Guam's Marine Fisheries Resources.

Study 1. Fisheries Participation, Effort and Harvest Surveys.
Job 1. Offshore Fisheries Survey.

Objectives:

To perform 192 surveys over a one year period at the three largest boat launching facilities on island to obtain information including boating activity, fishermen participation, catch per unit effort, and species composition in order to monitor Guam's offshore fisheries resources.

Job 2. Inshore Fisheries Survey.

Objectives:

To perform 192 surveys, over a one-year period, along the coastline of Guam, to obtain information on fishermen participation, catch per unit effort, and species composition in order to monitor Guam's inshore fisheries resources.

To conduct 24 aerial surveys, over a one-year period, along the coastline of Guam, to obtain information on fishermen participation, catch per unit effort, and species composition in order to monitor Guam's offshore fisheries resources.

To host 1 Kid's Fishing Derby, over a one-year period, at an appropriate site along the coastline of Guam, to provide new fishers with a positive fishing experience and foster in them a conservation ethic.

Sub-Project F-2: Management of Guam's Freshwater Fisheries Resources.
Job 1. Freshwater Monitoring Program

Objectives:

To survey 7 rivers in 3 watersheds on Guam (including one that contains a dam), over a one year period, to obtain information on fish species density and composition for analysis and comparison between watersheds.

Job 2. Fisheries Studies in Fena Lake

Objectives:

To conduct a stock assessment, using electrofishing and mark-recapture methodology, over a five year period in Fena Lake, Guam, to obtain information on fish species composition and population structure.

Sub-Project F-3: Technical Assistance.
Study 1. Technical Assistance to Activities Affecting Guam's Fish Resources.

Objectives:

To provide technical information on sport fishing and related issues to the public, the private sector, and local and federal government agencies on the island of Guam, as needed over a one year period, through written comments and attendance at meetings.

Sub-Project F-4: Biological Surveys
Study 1. Stock Assessment Surveys
Job 1. Visual Stock Assessment Surveys of Marine Preserves and Control Sites

Objectives:

To conduct fish counts and timed-swim counts on 36 permanent transects located in reef flat and lagoon habitats in Achang Reef Flat Marine Preserve, Piti Bomb Holes Marine Preserve, Asan Bay, Pago Bay, and Cocos Lagoon, over a two year period in order to assess the effectiveness of Guam's marine preserves in recovering fisheries resources.

To conduct fish counts, timed-swim counts, and video-transects on 32 permanent transects located at the 20', 30', 40', and 50' depth contours of the fore reef slopes in Achang Reef Flat Marine Preserve, Piti Bomb Holes Marine Preserve, Asan Bay, and the backside of Cocos Lagoon, over a two year period in order to assess the effectiveness of Guam's marine preserves in recovering fisheries resources.

To study, over a one year period, the feasibility of conducting additional creel surveys at sites adjacent to Achang Reef Flat Marine Preserve and Piti Bomb Holes Marine Preserve, in order to monitor "spill-over" effects.

Project Title: Guam Sea Turtle Recovery Program

Objectives:

To collect baseline population size, demography (age and sex), genetic, and distribution information for sea turtles in and about Guam.

To survey Guam's beaches for sea turtle nesting activity for both species throughout the nesting period

Project Title: Commercial Landings Monitoring

Objectives:

To operate a "trip ticket" invoicing system for all fisheries that land Guam-caught fish for sale in order to assist in monitoring the annual commercial catch of Guam's fisheries resources.

Project Title: Coral Reef Monitoring Assistant
Objective: To strengthen coral reef monitoring efforts in Guam by providing much-needed manpower and technical assistance

Project Title: Coral Reef Initiative Travel
Objective: To allow personnel to attend meetings requiring representation from Guam on Coral Reef Initiative Issues

Project Title: Dues for Support of the U.S. All Islands Coral Reef Initiative Coordinating Committee Secretariat

Objectives:

To continue supporting USAICRICC activities, providing better coordination between the geographically distant members, liaising with federal partners, and representing member needs in various forums

Project Title: Effects of Motorized Personal Watercraft on Guam Coral Reef Ecosystems

Objectives:

To evaluate direct, cumulative and secondary impacts of use of motorized personal watercraft (jet skis) on Guam coral reef ecosystems

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DEPARTMENT OF THE NAVY
COMMANDER, U.S. NAVAL FORCES MARIANAS
PSC 455, BOX 152
FPO AP 96540-1000

IN REPLY REFER TO:
5800
Ser N00J/ 0145
31 Mar 04

Mr. Paul Bassler
Director
Guam Department of Agriculture
192 Dairy Road
Mangilao, Guam 96913

Dear Mr. Bassler:

Under the order of the District Court of Guam, Case Number CV 00-00060 Marianas Audubon Society v Babbit, the Government of Guam (GOVGUAM) has been afforded the opportunity to propose an alternative to the designation of critical habitat on GOVGUAM land as contained in the proposed U.S. Fish and Wildlife rule at 67 Federal Register 637389 (Oct 15, 2002). GOVGUAM proposes to designate certain GOVGUAM lands as conservation lands for the benefit of the endangered species that give rise to the proposed critical habitat rule.

The Government of Guam and the United States Department of the Navy share common goals and responsibilities for the recovery of endangered and threatened species, and conservation of the unique ecosystems of Guam. The United States Navy recognizes that the reservation and preservation of certain Government of Guam lands for conservation of endangered and threatened species provides essential habitat for survival and recovery of endangered and threatened wildlife resources on Guam. The United States Department of the Navy desires to continue the cooperative and coordinated efforts that have developed between the agencies since the designation of the 6 avian and bat species as endangered on Guam. This cooperative effort recognizes the major cause of the demise of the designated species as being invasive species predation and invasive species damage to the native habitat needed for recovery of the species. Active management of conservation areas is beneficial to the stated goals of species recovery. Continued inter-agency cooperative efforts, combined with the Government of Guam's proposed conservation initiative, fully meets the spirit and intent of the Endangered Species Act of 1973. More importantly, it recognizes the underlying relationship between ecosystem management, conservation of endangered and threatened species, and the human environment.

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The United States Navy deems it advantageous and desirable to manage the fish and wildlife resources on Guam, in part, through the designation of Government of Guam's proposed designation of conservation areas. Those conservation areas are then dedicated to ecosystem management that fosters recovery of endangered species. The Department of the Navy supports, and will cooperate in development of the proposed ecosystem management plans for the above mentioned conservation areas. These plans will provide a comprehensive management plan to control invasive species (including Brown Tree Snakes and feral ungulates), recover endangered and threatened species and promote conservation and rehabilitation of the resources in conjunction with the Navy's Integrated Natural Resource Management plans for Navy controlled properties. The exchange of technical information and the coordination of law enforcement issues benefit the resources whether located temporarily on federal or territorial property. The recognition of mutually beneficial management plans recognizes the transient nature of the species.

The United States Navy welcomes the opportunity to support the Government of Guam in its proposed designation of territorial conservation areas and welcomes the opportunity to further develop mutually beneficial management plans for the respective properties. My point of contact for this matter is Commander Edward J. Lynch, JAGC, USNR, the regional environmental counsel, who may be reached at 339-5291 or n00j@guam.navy.mil.

Sincerely,

R. A. McNaught
Captain, USN
Acting

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March 8, 2004

Memorandum (Opinion)

Ref: Agri.03-1252

Mr. Paul Bassler
Director
Department of Agriculture
192 Dairy Road
Mangilao, Guam 96913

Re: 21 GCA § 68950

Dear Director Bassler:

You have asked whether PL 23-24 (21 GCA § 68950) prevents ongoing discussions with the federal government; or simply requires prior legislative approval of any agreement that is ultimately reached between the government of Guam and the federal government? This question is raised in the context of developing an overlay refuge as an alternative to a critical habitant designation.

ANSWER:

21 GCA § 68950 does not prohibit discussions with the federal government, or agreements with the federal government. Nor does it require legislative approval of agreements entered into with the federal government.

DISCUSSION:

The starting point in any statutory analysis is the plain language of the statute. The goal is to determine the intent of the legislature and give the statute meaning without altering or amending the statute's scope. The statute must be read as a whole. Therefore, each section must be construed in conjunction with other sections. The language cannot be read in isolation. It must be examined within its context. A statute's context includes looking at other provisions of the same statute and other related statutes. Finally, undefined terms in a statute are ascribed their common ordinary meaning. In re Request of Governor Camacho Relative to Interpretation and

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Application of Section 11 of the Organic Act of Guam, 2003 Guam 16 at ¶ 17 (citations omitted.)

Section 68950(a) provides: "[i]t is the policy of the government of Guam to seek the termination of federal ownership of real property in Northern Guam commonly known as the *Wildlife Refuge* and to seek the transfer of those lands from the control of the U.S. Department of the Interior's Fish and Wild Life Service to local authority for whatever purposes deemed appropriate by local authority...." This language is unambiguous. The Legislature desires the government of Guam to seek a transfer of the *Wildlife Refuge* from the federal government to the government of Guam.

Section 68950(a) further provides: "... with respect to the conservation of local fauna, flora, and habitat, it is the position of the government of Guam that federal jurisdiction in these matters is to be opposed." Thus, the government of Guam must oppose federal jurisdiction with respect to conservation of local fauna, flora and habitat within the *Wildlife Refuge*.

Section 68950(a) further provides: "... in the carrying out of local conservation initiatives and programs, it is vital that neither the government of Guam nor any of its instrumentalities implicitly or explicitly convey tacit or expressed approval of the continuous existence of the *Wildlife Refuge* under federal jurisdiction." This language comes into play when instrumentalities of the government of Guam are carrying out local conservation initiatives and programs. When doing so, the instrumentalities may not, in any way, suggest that they approve of federal jurisdiction of the *Wildlife Refuge*.

Section 68950(b) provides: "[n]either the government of Guam, nor any of its instrumentalities, shall enter into any cooperative agreement or memorandum of understanding, with any department, agency, or instrumentality of the United States federal government, which in any manner can be construed as providing tacit or expressed support of continued existence of the so-called Wildlife Refuge under federal jurisdiction at Ritidian." Webster's Collegiate Dictionary, 10th Edition, defines support as "to uphold or defend as valid or right." It is in the nature of giving assistance. Id. Thus, any agreement an instrumentality of the government of Guam enters into with the federal government must not lend itself to a construction that the agreement upholds or defends federal jurisdiction of the Wildlife Refuge as valid or right.

Section 68950(b) further provides: "[t]he use of any government of Guam resource, personnel, equipment, or funds to enforce any limitation of public access to the so-called Wildlife Refuge at Ritidian is prohibited." This language means that no government of Guam resource may be used in the enforcement of limitation to public access to the *Wildlife Refuge*.

Section 68950(c) provides: "The government of Guam hereby disestablishes all federal designations of critical habitat or wildlife refuge as an act of sovereignty." This language means that anything designated as "critical habitat" or "wildlife refuge" by the federal government is not recognized as such under Guam law. The language seems to be a legislative expression that it would rather see the local government making such designations. The Legislature did not provide any substitute designations. This provision may come into conflict with federal law

under certain circumstances. An analysis of the language in the context of the circumstances should be done when the circumstances arise.

Looking at the statute as a whole, it appears that the government of Guam desires a change of ownership of the *Wildlife Refuge* from the federal government to the government of Guam. Consistent with this desire, the government of Guam must oppose federal jurisdiction over conservation of local fauna, flora and habitat within the *Wildlife Refuge*. And if an instrumentality of the government of Guam engages in local conservation initiatives and programs, the instrumentality may not convey that it approves of federal jurisdiction over the *Wildlife Refuge*. As to agreements between the government of Guam and the federal government, any such agreement should not lend itself to a construction that the agreement upholds or defends federal jurisdiction of the Wildlife Refuge as valid or as right. The statute prohibits the use of government resources in efforts to limit access to the *Wildlife Refuge*.

The overriding theme of this statute is the government of Guam's objection to federal ownership of and jurisdiction over the *Wildlife Refuge*; and its desire to own and have jurisdiction over the *Wildlife Refuge*. Although the statute expresses opposition to federal ownership and jurisdiction, it implicitly, but reluctantly, acknowledges the same. The acknowledgment is found in the language that seeks termination of federal ownership. The statute intends that in its dealings with the federal government, instrumentalities of the government of Guam and its agents continue to express dissatisfaction with federal ownership and jurisdiction. Or alternatively, that the government of Guam continue to express its desire for ownership of the *Wildlife Refuge*. It connotes that the government of Guam must be ever vigilant not to give an impression that it supports federal ownership and jurisdiction over the *Wildlife Refuge*.

Thus, the statute is one of policy, expressing dissatisfaction and desires. Its only mandate is the government of Guam must oppose federal jurisdiction with respect to conservation of local fauna, flora and habitat within the *Wildlife Refuge*. It has three prohibitions. First, the government of Guam and its instrumentalities may not, in any way, suggest that they approve of federal jurisdiction over the *Wildlife Refuge* when carrying out local conservation initiatives and programs. Second, an instrumentality of the government of Guam may not enter into an agreement with the federal government if the agreement lends itself to a construction that the agreement upholds or defends federal jurisdiction of the Wildlife Refuge as valid or as right. Third, the government of Guam may not use any of its resources to enforce limitation to public access to the *Wildlife Refuge*.

With respect to the mandate to oppose federal jurisdiction, the statute gives no guidance as to how the opposition is to be carried out, neither the nature of the opposition, duration nor strength of the opposition. Thus, the slightest opposition satisfies the statute. The statute itself is a continuing statement of opposition. In the context of developing an overlay refuge as an alternative to a critical habitant designation, the government of Guam has made all parties involved aware of this statute. Arguably, this action satisfies the mandate to oppose federal jurisdiction.

Regarding the prohibition against approval of the continuous existence of the *Wildlife Refuge* under federal jurisdiction, the discussions pertaining to developing an overlay refuge as an alternative to a critical habitant designation do not constitute an approval of federal jurisdiction. The discussions may implicitly acknowledge federal jurisdiction; but so does the statute itself. This is necessarily so because federal ownership of some of the land involved is a fact that is not changed by local statute. Acknowledgement is not the same thing as approval. Acknowledgement is defined as to admit as true. Whereas, approval is an expression of a favorable attitude or opinion; or the giving of one's consent. *See* Webster's New World Dictionary, Third College Edition.

The prohibition against entering into an agreement that lends itself to a construction that the agreement supports federal jurisdiction, does not prohibit the government of Guam or its instrumentalities from discussing an agreement with the federal government; or entering into an agreement with the federal government. The legislative concern here is that no prospective agreement upholds or defends federal jurisdiction as valid or as right. While any such agreement would implicitly acknowledge federal ownership and jurisdiction, it would not necessarily uphold or defend federal ownership and jurisdiction as being valid or as right. The drafters of the agreement will have to be careful and avoid language that could connote such a construction. Avoiding such language would not be inconsistent with the purpose of developing an overlay refuge as an alternative to a critical habitant designation. Defending federal ownership and jurisdiction as valid need not be an issue.

The prohibition against the government of Guam using any of its resources to enforce limitation on public access to the *Wildlife Refuge* does not prohibit the government of Guam from entering into an agreement with the federal government, so long as the agreement does not require the government of Guam to use any of its resources to enforce limitation of public access to the *Wildlife Refuge*.

The conclusion that the statute does not prohibit the government of Guam or its instrumentalities from entering into an agreement with the federal government has legislative support. On information and belief, Senator Mark Forbes stated that PL 23-24 does not prohibit the Department of Agriculture from having discussions with the federal government and entering into an agreement pertaining to developing an overlay refuge as an alternative to a critical habitant designation. The occasion of Senator Forbes' statement was an October 30, 2003 public hearing for the repeal of PL 23-24. Senator Forbes' statement is significant because he is a co-author of Bill No. 150, which became PL 23-24.

Since Senator Forbes was a co-author, his view of the statutes meaning is entitled to great weight. "In the course of deliberations on a bill, legislators look to the sponsor and to the representative of the committee in charge of it, to be particularly well informed about its purpose, meaning, and intended effect." Bank of Guam v. Guam Banking Bd., 2003 Guam 9 at ¶ 32 citing United States v. Lane, 883 F.2d 1484, 1491 n. 12 (10th Cir. 1989) (quoting N. Singer, 2A SUTHERLAND ON STATUTORY CONSTRUCTION § 48.15). In fact "[t]hese statements are in the nature of supplemental committee reports and are entitled to the same weight accorded to formal committee reports." Bank of Guam, *supra*, citing United States v. Oates, 560 F.2d 45,

71 n. 26. "Generally, committee reports represent the most persuasive indicia of Congressional intent (with the exception, of course, of the language of the statute itself)." Bank of Guam, *supra*, citing Mills v. United States, 713 F.2d 1249, 1252 (7th Cir. 1983). Thus, the statements of Senator Forbes that the statute is not intended to prohibit discussion with and entering into agreements with the federal government must be given great deference. Senator Forbes' statement coupled with the absence of express language otherwise, means the government of Guam is not prohibited from entering into agreements with the federal government. Moreover, there is no language in the statute requiring legislative approval of agreements.

CONCLUSION:

21 GCA § 68950 is a government of Guam policy statement expressing dissatisfaction and desires. The government of Guam is not happy that the federal government continues to own and continues to exercise jurisdiction over the *Wildlife Refuge*. The Statute implicitly acknowledges federal ownership and jurisdiction, but mandates that the government of Guam oppose federal ownership and jurisdiction. The statute gives no guidance as to the nature or strength of the opposition. It does not prohibit instrumentalities of the government of Guam from holding discussions with the federal government. Nor does it prevent them from entering into agreements with the federal government. There is no language in the statute requiring legislative approval of such agreements.

NOTE:

This opinion relies, in part, on statements made by Senator Mark Forbes at a public hearing, on October 30, 2003, to repeal 21 GCA § 68950. Excerpts containing his statements should be attached to this opinion when transcripts of the public hearing are obtained.

This memorandum is issued as an opinion of the Attorney General. For a faster response to any inquiry about this memorandum, please use the reference number.

OFFICE OF THE ATTORNEY GENERAL
DOUGLAS B. MOYLAN, Attorney General

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